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item 5

Chromite, Candelaria, Nevada.

NBM 2

These chromite claims can be best approached by following the road leading to the west from U. S. 95 at a point approximately 10 miles north from Coaldale (between 1/4 to 1/2 mile south of the Mineral-Esmeralda county boundary). This road is on the south side of summit. The first sign erected by Frank Nelson will be found on the westerly road 4 miles from U. S. 95 at a road branching to the left or southerly. From this point on the road is amply made so that one can drive within 75 feet of the largest chromite exposure.

Nelson's cabin is about 3/4 mile up a small canyon from the second sign "Baroid".

Mr. Nelson and Mr. ^{Brown} Hall, partners, are presently engaged in developing a local barite deposit which they have sold under lease and option to the Baroid Co. of Los Angeles. It is understood that they have exposed barite 30" to 72" wide and the specific gravity is about 4.5. The barite is pretty good but it is apparent that the Sp. Gr. given is only for picked samples rather than the mine run. Mining is expected commence some time in the near future. It is Mr. Hall's understanding that the barite will be used as drilling mud. ^{Brown}

Reference to the barite has been made for the reason that an occurrence of that mineral is found about 75 feet south (foot-wall side) of the serpentine belt. The principal occurrence of the barite now under development is about 4500 feet south of the serpentine belt. These mineral deposits are on the north slope of a prominent east-west ridge. ~~The barite under development is at a higher elevation~~ The barite being developed is approximately 250 feet (elevation) above the serpentine belt and, probably in the lava capping found on many of the ridges. A large number of the existing ridges are covered with a lava capping which creates the impression that of a plateau.

The principal chromite "showing" is found on the C. & M. #1 claim described as being 1500 feet (easterly) by 600 feet (north). This claim is joined on the west by C. & M. #2. Photograph #1 was taken from the discovery monument looking N. 70° E. toward a discovery pit or cut sunk in talc (4 - 5 feet wide) between walls of serpentine. This cut is near the channel of a small ravine. The grade of the talc is as good as required (reported by Nelson). A second talc occurrence has near the north side line of the C & M #1 has been explored to a depth of 12 feet. These occurrences, in the order noted, are presently considered to be in the footwall and hangingwall sections of the serpentine belt. There is an indication that the serpentine belt dips to the north at about 40°. This is seen in the serpentine shown in Photo. #1, the chromite lenses fifty feet east of the west endline of the C. & M. #1 claim and numerous other workings on the east end

end of the claim.

It was not possible to determine the extent of the serpentine belt in the limited time available. On the C. & M. #1 claim, it appears that the serpentine belt varies from 200 to 400 feet in width (possibly more in places) and strikes S 82° E. The approximate strike was observed at the principle chromite lenses near the west endline. West from that point, the serpentine belt appears to strike a few degrees south of west. This change of course is probably due to fault displacement (fault along course of ravine photograph #1). The fault is suggested by the locally prominent breccia cropping on the east side of the ravine. For the present time, it is assumed that the serpentine belt may extend at least 1000 to 1500 feet west-erly from this ravine, (C. & M. #2 Claim). In the easterly direction, the serpentine belt extends the full length of the C. & M. #1 and probably the full length of a third claim. For the present time, the length of the belt is in excess of 3000 feet. The full extent of the belt may be obscured by the lava capping. On the C. & M. claims, the volcanics have been eroded away.

The footwall and hangingwall of the serpentine belt appears to be shale. It is the opinion of the writer that the serpentine has been derived from the alteration of a ferro-magnesium intrusive (dikey). The color of the serpentine varies from reddish-brown to ~~dark~~ dark green. ~~in contrast~~ in contrast to the light grey color of the wall rocks. It is the general impression that the darker serpentine prevails in the central part of the belt. In the writer's limited opinion, this serpentine is similar to that found in California and believed to be derived from ultra-basic intrusives. In one shallow shaft, near the east end of the C. & M. #1 claim and the footwall of the serpentine belt, an altered sedimentary stratum has been exposed to a depth of 10 or 12 feet. This stratum is about 36" wide and contains a few narrow irregular seams of a waxy yellow to light green serpentine considered to possibly have been derived from magnesium rich sedimentary rocks. The seams vary from 1/2" to 1" in width.

As previously noted, two small lenses of chromite crop on the surface and have been further exposed by Nelson and ~~Walt~~ Brown. (West end of the C. & M. #1 claim). The upper, and what looks like the higher grade, chromite lens is about 6' long by 6' feet on the northerly dip by 10" thick. Exploration work has fairly well indicated that the lens does not extend to depth. The second lens, ~~apparently~~ separated from the first by serpentine, appears to have greater dimensions along the strike of the serpentine belt and to extend to greater depths on the dip. The footwall of the lens has not been exposed, therefore the width of the possible ore is not known. It is the impression that both lenses are small for the reason that chromite is limited to an area of about four hundred square feet, (20' by 20').

Chromite is reported to have been found at other places along the strike of the serpentine belt both east and west from the above noted croppings. A few small piles of chromite, piles consisting of

6 or more small pieces, were found at widely separated points. At such points no additional chromite was seen. No disseminated chromite was observed in the vicinity of these piles or the croppings referred to in the preceding paragraph. In the absence of more positive evidence of chromite ~~at these points in the serpentine~~ in the serpentine, these small piles suggest possible salting. This idea is discounted in favor of the possibility that the chromite has been taken from small separated segregations exposed by erosion, ~~and~~ early prospectors and the present prospectors. The recent prospectors (Nelson & Brown) have gone over the serpentine cropping ~~fairly carefully~~ with a fair degree of care during the past year and a half.

Since chromite has been found in-place on and near the west end of the C. & M. #1 claim, observed in small piles at other points on the same claim and, reported to have been found on the adjoining claims on the strike of the serpentine, it is the opinion that ~~the presently exposed serpentine belt~~ ~~contains chromite lenses~~ chromite lenses of ~~unknown size~~ may be expected along the serpentine exposure.

As the lenses which have been found and presently crop on the surface are small, it is suggested that the serpentine belt be explored with a magnetometer or possibly a Fisher M-Scope. This would be an ideal place to try the latter instrument. It is quite desirable to try to outline deeper and possibly larger lenses and this can only be economically done with the aid of geophysical instruments.

At about the middle of the claim, adjoining the C. & M. #1 claim on the east, a four foot seam of highly altered material (probably serpentine?) contains considerable green mineral taken to be garnierite. A small sample of the material has been brought in for a positive nickel determination. It is the opinion of the writer that nickel occurs at other mining properties in the Candelara district. It was reported that an older assayer formerly employed in the district stated nickel had been found in the principal mines.

It is considered advisable to proceed with a detailed study of the Candelara chromite deposits and the remainder of the district.

RMP
Buller